

WHAT IS CLAIMED IS:

1. A method for manufacturing a supercharger rotor, providing;

5 a plurality of profile portion divided metal molds (12) surrounding a profile portion (11a) of a supercharger rotor (11) to allow division,

a pair of end metal molds (14, and 15) surrounding both ends (11b) of the rotor, and

10 a helical core (16) helically passed through the profile portion of the rotor being attached to one end metal mold (14),

the method further comprising the steps of:

(A) forming a rotor-shaped cavity (13) inside by  
15 the profile portion divided metal molds and the end metal molds;

(B) pressurizing hot metal, and injecting and solidifying the hot metal in the cavity; and

(C) pulling out the end metal mold (14) having a  
20 helical core by rotating the same along a helical line.

2. A method for manufacturing a supercharger rotor by casting a profile portion (21a) of a  
supercharger rotor (21) and a shaft (22) penetrating the  
25 same, comprising the steps of:

(D) first processing a left and right helical cross portion (23) on a surface of the shaft connected

to the profile portion; and

(E) casting the profile portion (21a) around the shaft in die-casting.

5           - 3. A method according to claim 2, wherein the left and right helical cross portion (23) includes a right handed screw helical groove, and a left handed screw helical groove, and these grooves are caused to cross each other.

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4. An apparatus for manufacturing a supercharger rotor, comprising:

15           a plurality of profile portion divided metal molds (12) surrounding a profile portion (11a) of a supercharger rotor (11) to allow division;

            a pair of end metal molds (14, and 15) surrounding both ends of the rotor;

20           a helical core (16) attached to one end metal mold (14) to be helically passed through the profile portion of the rotor; and

            a rotary pulling-out device (18) for pulling out the end metal mold (14) having the helical core by rotating the same along a helical line.

25           5. An apparatus according to claim 4, wherein for the helical core (16), sectional shapes orthogonal to a rotor shaft are similar, and an attached portion to

the end metal mold (14) is formed thick, and gradually made thinner toward a tip.